Department of Transportation

National Highway Traffic Safety Administration

[Docket No. NHTSA-2012-0003; Notice 2]

Spartan Motor Chassis, Inc.

Denial of Petition for Decision of Inconsequential Noncompliance

AGENCY: National Highway Traffic Safety Administration, DOT

ACTION: Notice of Denial

SUMMARY: Spartan Motor Chassis, Inc. (Spartan) has determined that model year 2011 and 2012 model MM, K2, K3, and SU incomplete vehicles manufactured between January 28, 2011 and June 28, 2011, do not fully comply with paragraph S5.1.4 of Federal Motor Vehicle Safety Standard (FMVSS) No. 121, *Air Brake Systems*. Spartan has filed an appropriate report pursuant to 49 CFR Part 573, Defect and Noncompliance Responsibility and Reports (dated July 13, 2011).

Pursuant to 49 U.S.C. 30118(d) and 30120(h) and the rule implementing those provisions at 49 CFR Part 556, Exemption for Inconsequential Defect or Noncompliance, Spartan has petitioned for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety. Notice of receipt of the petition was published, with a 30-day public comment period, on February 7, 2012 in the Federal Register (77 FR 6190). No

comments were received. To view the petition, and all supporting documents log onto the Federal Docket Management System (FDMS) website at: http://www.regulations.gov/. Then follow the online search instructions to locate docket number "NHTSA-2012-0003."

CONTACT INFORMATION: For further information on this decision contact Mr. James A. Jones, Office of Vehicle Safety Compliance, the National Highway Traffic Safety Administration (NHTSA), telephone (202)366-5294, facsimile (202) 366-7002.

SUMMARY OF SPARTANS' ANALYSES: Spartan explains that the noncompliance is the accuracy of the air gauges used in the air brake systems on the subject vehicles do not meet the accuracy requirements identified in FMVSS No. 121 S5.1.4. Spartan explains that the air brake systems operate as designed and meet all other applicable requirements of FMVSS No. 121. In this case, the operator may not be able to detect, by way of the air gauges, the variation between the physical cut-out pressure of the air compressor versus what is shown on the gauge. Although the air pressure within the air systems is controlled by an air governor that is independent of the gauges, rendering the gauges do not provide an accurate indication of the air pressure to the driver.

Spartan additionally states that it has corrected the gauge calibration so that future production will be in compliance.

In summation, Spartan believes that the described noncompliance of its vehicles is inconsequential to motor vehicle safety, and that its petition, to exempt from providing recall notification of noncompliance as required by 49 U.S.C. 30118 and remedying the recall noncompliance as required by 49 U.S.C. 30120 should be granted.

NHTSA DECISION:

Requirement Background:

Paragraphs S5 of FMVSS No. 121 requires in pertinent part:

> S5.1 *Required equipment for trucks and buses*. Each truck and bus shall have the following equipment: * * *
>
> S5.1.4 *Pressure gauge*. A pressure gauge in each service brake system, readily visible to a person seated in the normal driving position, that indicates the service reservoir system air pressure. The accuracy of the gauge shall be within plus or minus 7 percent of the compressor cut-out pressure.

The air pressure gauge requirement was adopted during the initial proposal of Standard No. 121 and has been a longstanding requirement of the agency's safety standard that regulates the manufacture of buses and trucks equipped with air brakes. The agency initially proposed that air pressure gauges be visible to the driver seated at the driver's position and have an accuracy of "plus or minus 5 percent" of the air compressor cut-out pressure (see 35 FR 10368). In response to comments, the agency decided to broaden the accuracy of the gauges to "plus or minus

7 percent" of the air compressor cut-out pressure (see 36 FR 3817).

The requirement focuses on two important aspects of motor vehicle safety: 1. Air gauges must be readily visible to the driver seated behind the steering wheel and, 2. Air gauges must accurately display system air pressure to the driver during operation of the vehicle. Readily visible and accurate gauges provide critical feedback to drivers about the condition of the vehicle's air brake system. According to Spartan, with the vehicle's air system fully charged to physical cut-out pressure, the faulty gauges could read as high as 133 psi when they should read 120 psi.

DISCUSSION: The manufacturer of the faulty analog air pressure gauges, Ametek, miscalculated the sweep angle of the pointer-dial resulting in pressure readings that could overshoot by as much as 11 percent of the air compressor cut-out pressure. With the vehicle's air system fully charged to the physical cut-out pressure, the faulty gauges could read as high as 133 psi when they should read 120 psi.

There are three psi readings indicated on the faulty air pressure gauge read-out displays, at 0, 85 and 150 psi, with no other graduation marks or incremental pressures between these pressures. Since, the gauges lack markings, Spartan argued that vehicle operators may not be able to detect the variance in

pressure readings. Spartan, however, did not provide any supporting documentation to show the difference in angle between a properly calibrated gauge and a faulty gauge or any data to demonstrate whether operators, seated at the driver's position, detect the difference in angle.

Spartan also argued that air pressure within the air system is controlled by an air governor that is independent of the gauges rendering the gauges as only an indicator to the operator. The fact that the vehicles may have an air governor that controls air pressure cut-out does not eliminate the need for an accurate gauge for the driver.

The 11 percent error as stated by Spartan is unacceptable for air pressure gauges used in heavy duty air-braked vehicle applications. Because of the large error and overshoot of the faulty gauges, actual low system pressures may appear to the driver to be safe, leaving operators ignorant of the true condition of the vehicle's air brake system. Since the faulty Ametek gauges do not have sufficient markings that specify the normal operating range, it is even more important that the gauges be accurate so that the driver is aware of the service reservoir system air pressures[1].

[1] On March 29, 2013, in a supplemental submission upon NHTSA's request (and incorporated into the official file), Spartan provided a copy of the section of the owner's manual which discusses the operation of the vehicle's pressure gauges. The manual states that the vehicle's normal operating pressure is "**100 to 140 psi**, which is preset at the factory...Before moving the vehicle, **be sure both gauges are within normal operating range [emphasis added]**." The pictorial, however, shows different gauges than the subject faulty Ametek pressure gauges. The pressure gauges in the pictorial have incremental markings at 0, 50, 65, 100 and 150 psi so that drivers

Drivers rely upon the gauges to provide accurate information, especially in situations that may involve loss of system air, and that detect malfunctioning air system components when service reservoir system air does not appear to fully charge to compressor cut-out. These conditions can create an operational hazard when there is insufficient air pressure for proper functioning of the air brake system. So, it is important that the gauges accurately display pressures, not only at compressor cut-out, but throughout scale. Gauges must accurately display system air pressure to the driver during operation of the vehicle as intended.

DECISION: In consideration of the foregoing, NHTSA has decided that the petitioner has not met its burden of persuasion that the noncompliance described is inconsequential to motor vehicle safety. Accordingly, Spartan's petition is hereby denied, and the petitioner must notify owners, purchasers and dealers pursuant to 49 U.S.C. 30118 and provide a remedy in accordance with 49 U.S.C. 30120.

AUTHORITY: (49 U.S.C. 30118, 30120: delegations of authority at CFR 1.95 and 501.8)

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can readily check whether system air pressure is in the normal operating range. For the faulty gauges, with only 3 incremental markings at 0, 85 and 150 psi, the normal operating range is not specified and drivers may not be able to readily determine whether system air is at normal operating pressures.

ISSUED ON: August 5, 2013

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Nancy Lummen Lewis
Associate Administrator
for Enforcement

BILLING CODE: 4910-59-P

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